

**Annual Report, July 2012- June 2013**  
**Massachusetts Department of Public Health (MDPH)**  
**Expanded Occupational Health Surveillance in Massachusetts**  
**Fundamental Project**

**Principal Investigator** – Dr. Letitia Davis, 617-624-5626, [Letitia.Davis@state.ma.us](mailto:Letitia.Davis@state.ma.us)

**Project Coordinator** – Dr. Sangwoo Tak through April, 2013. As of May, 2013: Kathleen Grattan position. 617-624-5679, Grattan. [Kathleen.Grattan@state.ma.us](mailto:Kathleen.Grattan@state.ma.us)

**Web address** – [www.mass.gov/dph/ohsp](http://www.mass.gov/dph/ohsp)

The aim of the project is to reduce the incidence of work-related injuries and illness in Massachusetts by:

- Generating and disseminating state occupational health indicators (OHI)
- Conducting more extensive analysis of available population-based data sets and disseminating findings
- Conducting sentinel case surveillance and follow-up of serious occupational health events
- Maintaining working relationships with stakeholders to promote use of surveillance findings for prevention
- Integrating occupational health with other ongoing public health activities, and
- Promoting collaboration among Northeastern states to improve state occupational health surveillance capacity in the region

## **MAJOR OUTPUTS/PRODUCTS**

### **Case-based surveillance of serious occupational health events**

- OHSP received and triaged 33 reports of serious work-related burns reported by the MA Burn Injury Reporting System (MBIRS) and 91 amputations identified through Workers' Compensation records. 11 burns and 59 amputations were referred to OSHA for follow-up with several additional cases referred to other agencies. We also developed a summary of work-related burns included in MBIRS annual report.
- After a multi-year negotiations, we have succeeded in engaging the MA – Rhode Island Regional Poison Control (PC) Center in reporting cases of work-related poisonings to MDPH. A protocol for reporting was developed and approved, with a six month pilot to begin in July 2013.

### **New collaborations, integration efforts, and regional collaboration**

- OHSP and two other state agencies (Department of Labor Standards – DLS and Department of Industrial Accidents- DIA) have undertaken a new collaboration to use data for targeting interventions to reduce health and safety risks faced by municipal workers. This initiative evolved through the active participation of these agencies on the MA Occupational Health and Safety Team (MOHST) in which OHSP has played a leadership role since its inception three years ago. The MOHST includes representatives from state and federal agencies who meet quarterly to coordinate efforts to improve worker health and safety in MA.
- OHSP has continued to serve on the Governor's Advisory Board on state agency employee health and safety. We provided extensive input to the Human Resource Division on the analysis of data on workers' compensation claims filed state employees that was included in the Advisory Board report recently submitted to the Governor.

- Dr. Davis has been selected by the Commissioner to serve on the team working to develop the Massachusetts State Health Improvement Plan.
- OHSP took the lead in planning and coordinating the 22<sup>nd</sup> annual NE Regional Occupational Health Surveillance meeting May 6-7<sup>th</sup> in Chester, Connecticut. Twenty-two representatives from CT, MA, NJ, NH, NY State and NY City attended as well as 18 from the NE Center for Agricultural Health (NEC), NIOSH, Connecticut OSHA and the University of Connecticut.

### **MDPH Policy recommendations**

- This period, OHSP proposed expansions to the MDPH mandatory reporting requirements to include a general category of other occupational lung diseases (active reporting) and access to medical records for all occupational injuries (passive reporting). We anticipate adoption of these changes in Fall 2013. We also successfully provided input to MDPH worksite wellness program regarding: 1) integrated approaches to worksite wellness for a tool kit developed by MDPH for use by MA employers; and 2) tax credit initiative for work-site wellness activities under the MA Health Care Reform law being overseen by MDPH.

### **Publications and presentations**

[Putting Data to Work: Massachusetts Occupational Health Indicators](#), 2012

[Promoting integrated approaches to reducing health inequities among low-income workers: applying a social ecological framework](#). SL Baron, S Beard, LK Davis, L Delp, L Forst, A Kidd-Taylor, AK Liebman, L Linnan, L Punnett , LS Welch, Am J Ind Med, Mar 26, 2013.

*State health agencies' access to state workers' compensation data: results of an assessment conducted by the Council of State and Territorial Epidemiologists*, 2012, L Davis, K Rosenman, G Shorr, E Simms, in proceedings of June 2012 national conference on Use of Workers' Compensation Data for Occupational Injury and Illness Surveillance.

[Barriers to Use of Workers' Compensation for Patient Care at Massachusetts Community Health Centers](#), LS Azaroff, LK Davis, R Naparstek, D Hashimoto, JR Laing, DH Wegman. Epublished in Health Serv Res. Feb 28, 2013; (Initial research conducted under previous SBS Cooperative Agreement)

[Healthy Workplaces? A Survey of Massachusetts Employers](#), PA Tremblay, S Nobrega, L Davis, E Erck, L Punnett. Epublished in Am J Health Promot, Mar 7, 2013. (Initial research conducted under previous SBS Cooperative Agreement)

[Mesothelioma and employment in Massachusetts: analysis of cancer registry data 1988 – 2003](#).CR Roelofs, GJ Kernan, LK Davis, RW Clapp, PR Hunt. Am J Ind Med, Jun 20, 2013.

"Use of Workers' Compensation Data for Occupational Safety and Health Workshop" Webinar hosted by the CSTE Occupational Health Surveillance Subcommittee. OHSP's contribution was a discussion of the results from CSTE's nationwide assessment of state public health agency use of Workers' Compensation data for surveillance. Nov. 16, 2012.

"Interaction between race/ethnicity and physical demand at work on obesity among working adults." 2013 BRFSS Conference, Atlanta GA, Mar 23-27, 2013. Also at Annual CSTE Conference, Pasadena, CA, June 10, 2013.

"Barriers to use of workers' compensation for patient care at Massachusetts community health centers." Annual CSTE Conference, Pasadena, CA, June 10, 2013.

## **MAJOR OUTCOMES**

### **Intermediate outcomes**

- This period OHSP placed substantial emphasis on demonstrating utility of including industry and occupation (I/O) in the BRFSS, working both within MDPH and at the national level. The MDPH Health Survey Program has not only agreed to continue to collect these data elements but has prepared a special section on “Occupation in the 2012 Annual BRFSS Report. This section, developed with OHSP input, presents five health indicators by occupation group and serves as a template for use by other states. We were also instrumental in NIOSH’ efforts to create a BRFSS I/O Optional Model in 2013; NIOSH staff used our OHSP 2011 interviewer training manual in the development of their training materials for other states.
- MDPH incorporated OHSP input in its testimony on Meaningful Use Stage 3 submitted to CMS advocating for incorporation of I/O information as certification criteria for electronic health record (EHR) software. These comments included findings from our prior NIOSH funded project with Cambridge Health Alliance and results of NIOCCS beta testing carried out this period. Our collaboration with other CSTE members to prepare and disseminate background materials on I/O in EHRs was also successful, contributing to the submission of over 300 stakeholder comments on I/O submitted to CMS.
- In response to OHSP referrals, OSHA conducted 32 investigations of amputations and seven of burns. While we have not accessed the impact of these investigations, prior research indicates that OSHA enforcement investigations contribute to the improvement of working conditions.
- The Massachusetts Coalition for Occupational Safety and Health cited data on OHIs in their annual report, “[Dying for Work in Massachusetts](#),” released on Workers’ Memorial Day. The report specifically highlighted the high rates of mesothelioma incidence in MA compared to the nation.
- Prompted by OHSP research findings on barriers to use of Workers’ Compensation (see publications), the DIA and League of Community Health Centers (CHC) collaborated in providing three trainings on use of Workers’ compensation for CHC fiscal administrators throughout the state. DIA also developed and disseminated new worker materials on Workers’ Compensation in multiple languages.

### **Potential and end outcomes**

The MA Fundamental project has not tracked specific end outcomes in relation to its activities. The interagency collaborations and substantial efforts to integrate occupational health into other ongoing public health activities, including the BRFSS and EHRs, have the long range potential to promote increased consideration of the influence of work on health by the broader public health community and, in turn, improve the health and safety of working people in Massachusetts and throughout the nation.

**Annual Report, July 2012 - June 2013**  
**Massachusetts Department of Public Health**  
**Expanded Occupational Health Surveillance in Massachusetts**  
**Massachusetts FACE Project**

**Principal Investigator** – Dr. Letitia Davis, 617-624-5626, [Letitia.Davis@state.ma.us](mailto:Letitia.Davis@state.ma.us)

**Project Coordinator** – Michael Fiore, MS, 617-624-5627, [Michael.Fiore@state.ma.us](mailto:Michael.Fiore@state.ma.us)

**Web address:** [www.mass.gov/dph/FACE](http://www.mass.gov/dph/FACE)

The overarching aim of the Massachusetts FACE project is to reduce the incidence of fatal occupational injuries by:

- Using multiple data sources to rapidly identify all fatal occupational injuries
- Conducting fatality investigations to identify risk factors and prevention strategies
- Disseminating prevention recommendations to stakeholders who can intervene
- Planning and conducting targeted prevention activities

## **MAJOR OUTPUTS**

### **Surveillance and Investigations**

- MA FACE identified and documented 28 fatal injuries (7 suicides, 4 drowning, 4 transportation, 3 homicides, 2 public sector, 2 falls, 2 agriculture, 2 crushing, 1 machine-related and 1 work zone); information about these deaths was included in the MA Workers' Memorial Day report published by MA AFL-CIO and MassCOSH.
- MA FACE initiated eight fatality investigations of which we were able to complete four. We finalized four MA FACE reports and several others, including reports from previous years, are in various stages of completion.

### **Development and dissemination of prevention recommendations**

#### ***Reports and FACE Facts Dissemination***

- MA FACE, in collaboration with the state CFOI program, released the report [Fatal Injuries at Work - Massachusetts Fatality Update, 2011](#), and disseminated it to over 2,700 individuals, including police, fire, health, and public works departments, town clerks, health/safety professionals, employers, medical examiners, and unions.
- Finalized MA FACE reports were disseminated to individuals involved in the incidents as well as victims' families; to the broader community using mailing databases specific to each incident (130-250 companies per incident); and to core health and safety stakeholders.
- MA FACE collaborated with the MA Department of Labor Standards (DLS) on a two-pronged approach to disseminate information about crossing guard safety: a new [MA FACE Facts-Protect the Crossing Guards that Protect Our Children](#) - targets motorists and the community on crossing guard awareness, while DLS developed a Safety Bulletin for employers on crossing guards on proper crosswalk locations, personal protective equipment and training. Both documents were disseminated jointly to police chiefs, school superintendents and public works departments throughout the state.
- The MA FACE Facts [Temporary Agencies and Worksites Employers Share Responsibility for Keeping Temporary Workers Safe](#) (last period) was disseminated this period via e-mail to 36 career centers and staffing associations and 21 industry trade associations with high numbers of temporary workers. DLS, which licenses temporary agencies, added a link to the *FACE Facts* on their website once the *MA Temporary Workers Right to Know Law* was signed.

- This period, we disseminated the MA FACE Facts [Bathtub Refinisher Dies from Exposure to Methylene Chloride](#) (last period) via mail to 368 MA inspectional service departments and to 525 other locations, including bathtub refinishing companies, trade associations, plumbing licensing instructors, home insurance companies, building associations, housing authorities and property managers.

### **Fall Prevention in Residential Construction**

MA FACE continued to coordinate the MA Preventing Falls in Residential Construction (PFC) workgroup that brings together public and private partners to address preventing falls in construction. This period, with input from PFC and in collaboration with other partners, we developed and launched the multimedia [MA Campaign to Prevent Falls in Construction](#) to support the National Campaign to Prevent Falls in Construction.

- [PFAS SAFETY: Personal Fall Arrest Systems for Residential Construction Contractors](#) (available in English, Spanish and Portuguese) was released as the fourth brochure in MA FACE's residential construction fall prevention series.
- We mailed the series of four residential fall prevention brochures, along with a national campaign poster, to all (~350) Massachusetts city and town Building Permit/Inspectional Services offices requesting their help in dissemination.
- In partnership with PFC and national OSHA, MA FACE worked to get a Massachusetts tailored version of the national campaign poster on electronic billboards and regional transit systems throughout Greater Boston and the state.
- We developed a new working relationship with the MA Department of Public Safety (DPS), which licenses small construction contractors of one and two family dwellings, masonry, roofing, siding, demolition and insulation contractors throughout the state. DPS used its email data base to disseminate fall prevention materials to over 20,000 licensed contractors.
- MA FACE provided input on the content and layout of the national campaign's homeowners' flyer [If you are having work done on your roof, ask your contractor to play it safe.](#)

### **Publications and presentations**

Fatal Injuries at Work: Massachusetts Fatality Update, 2011

FACE Facts: Protect the Crossing Guards that Protect Our Children

PFAS Safety: Personal Fall Arrest Systems for Residential Contractors (English, Spanish, Portuguese)

MA FACE report 11MA019 - Refuse Collector was Fatally Injured when Struck by a Backing Refuse Collection Truck

MA FACE report 11MA043 - Municipal Electrician Dies after Falling from the Raised Bucket of a Vehicle-mounted Aerial Lift That Was Struck by a Tractor-trailer

MA FACE report 11MA044 - Truck Driver Dies while Rotating Tires Mounted on Demountable Multi-piece Rim Wheels

MA FACE report 12MA010 - Municipal Crossing Guard Fatally Injured When Struck by a Motor Vehicle

"MA FACE Project Update." Annual FACE meeting, Morgantown, WV, April 30, 2013.

"Massachusetts Department of Public Health Fall Campaign Support." NORA Construction Sector Council Meeting, Washington, DC, May 14, 2013

"Preventing Falls in Residential Construction: Building a Massachusetts State-based Campaign." Annual FACE meeting, Morgantown, WV, April 30, 2013.

## MAJOR OUTCOMES

### Intermediate Outcomes

#### *FACE Reports and FACE Facts*

- In response to our dissemination of *Protect the Crossing Guards that Protect Our Children*, the Registry of Motor Vehicles disseminated it to over 100 school bus drivers and added information about crossing guards to the June 2013 edition of the MA driver's manual.
- In response to our outreach, The National Solid Waste Management Association (NSWMA) disseminated *Temporary Agencies and Worksites Employers Share Responsibility for Keeping Temporary Workers Safe* to their safety committee and to all MA members.
- MA FACE reports were used as a teaching tool in several courses at the Harvard School of Public Health, University of Massachusetts at Lowell and Northeastern University.

#### *Fall Prevention Campaign*

- In response to the MA FACE Building Permit/Inspectional Services mailing, 47 municipalities ordered additional copies of our fall prevention brochures (> 13,000), in multiple languages, to make available to contractors seeking building permits for building construction, renovation or repair.
- Following an announcement in the NIOSH e-News about our fall prevention brochures, the Carpenters Union in Saint Louis ordered hundreds of copies.
- MA FACE worked with campaign partners to help evaluate six fall prevention trainings (one in Spanish) conducted by DLS and OSHA Region 1 staff this past spring and attended by over 350 contractors. We developed an evaluation form which was distributed by DLS at most trainings and completed by training attendees. Our first look at the evaluations shows that over 70% have said they would do something differently as a result of attending the training. This feedback is going to provide important information not only for MA FACE and its partners but also the National Fall campaign about how contractors heard about the training, and whether they had previously heard of the national campaign or seen the campaign logo.
- MA FACE efforts were written up as a success story and posted on the national campaign [website](#) and included in the how-to guide [Building a Local "Safety Pays, Falls Cost" Campaign](#).

### Potential and end outcomes

All FACE reports and educational materials include recommendations that if used have the potential to reduce workplace hazards

The annual number and rate of fatal occupational injuries in MA since 2000 has fluctuated over the years with no consistent upward or downward trend. In 2012 and during the first half of 2013, the numbers of deaths have been low, about half the prior 10 year average. In 2012, for the first time in recent years, falls to a lower level dropped from the leading single event for occupational fatalities in the state. Given the relatively small number of deaths in any single year, however, it is challenging to differentiate the effect of the project from normal yearly fluctuations in the fatality rate or the effects of external factors such as changes in employment patterns due the recession and enforcement activities.

**Annual Report, July 2012- June 2013**  
**Massachusetts Department of Public Health (MDPH)**  
**Expanded Occupational Health Surveillance in Massachusetts**  
**Work-related Asthma Surveillance and Prevention**

**Principal Investigator** Letitia Davis ScD—617 624-5626, [Letitia.Davis@state.ma.us](mailto:Letitia.Davis@state.ma.us)

**Project Coordinator** Kathleen Fitzsimmons MPH—617 624-5624,  
[Kathleen.Fitzsimmons@state.ma.us](mailto:Kathleen.Fitzsimmons@state.ma.us)

**Intervention Coordinator** Elise Pechter MPH, CIH—617 624-5681, [Elise.Pechter@state.ma.us](mailto:Elise.Pechter@state.ma.us)

**Web address:** [www.mass.gov/dph/workrelatedasthma](http://www.mass.gov/dph/workrelatedasthma)

The overarching aim of the project is to reduce the incidence of work-related asthma (WRA) in Massachusetts. Specific aims are to:

- Ascertain work-related asthma cases using multiple data sources
- Follow-up to confirm, using telephone interview and/or medical records
- Conduct intervention and prevention activities
- Analyze and disseminate sentinel and population-based surveillance data
- Collaborate with government and community partners to promote prevention

## **MAJOR OUTPUTS / PRODUCTS**

### **Case ascertainment, follow-up and investigations**

- As of March 2013, the Occupational Health Surveillance Program (OHSP) identified 164 potential cases of WRA from four sources—healthcare provider reports, inpatient hospital discharge data, emergency department data, and workers' compensation claims. We confirmed 57 cases, continuing attention to reaching underserved populations, with interviews conducted in Spanish by our bilingual interviewer.
- Negotiations to receive cases from a new source have succeeded. Starting July 16, 2013, the MA-RI Regional Poison Control Center will send case reports of work-related poisonings received from healthcare providers, including symptomatic asthma, to OHSP.
- Two on-site investigations in a restaurant laundry and manufacturer of hydraulic fuel pumps resulted in recommendations. Triggered by OHSP surveillance activities, a NIOSH Health Hazard Evaluation was initiated in a syntactic foam manufacturer with a multi-lingual workforce. It will continue August 2013 with health surveys. OHSP facilitated contact for interpretation with community leaders through Massachusetts Asthma Action Partnership.

### **Publications, presentations, and partnerships**

- "Burden of Asthma among Massachusetts Service Workers, 2010" Occupational Lung Disease Bulletin, [October 2012](#).
- "Disinfecting Surfaces and Asthma" Occupational Lung Disease Bulletin. Summer 2013. (June 2013 - approved, July 2013 – disseminated).
- "Does your asthma get worse at work?" Poem. Asthma and Allergy Bulletin. Asthma and Allergy Foundation of America, Spring 2013.
- "Work-related asthma" Oral presentation/training. *Community Health Network Area 22 Meeting*, Stonehill College, April 5, 2013.

- “On-the-job exposure to environmental tobacco smoke among Massachusetts workers” Abstract accepted for oral presentation. American Public Health Association Annual Meeting, Boston, MA, November 2-6, 2013.
- “Diisocyanates and Work-related Asthma: Findings from California, Massachusetts, Michigan, and New Jersey, 1993–2008”. Poster presentation. Primary Prevention of Asthma Symposium, Massachusetts Medical Society, Waltham, MA, April 23, 2013.
- Massachusetts Asthma Action Partnership (MAAP) Steering committee
  - November 27, 2012 Summit - chaired Adult and Occupational Asthma committee
  - May 20, 2013 Summit - facilitated panel, “Applying a health equity framework to State Asthma Planning.”
- Asthma Awareness Month, May 2013:
  - Collaborated with Bureau of Environmental Health and Asthma Prevention and Control Program on lobby display featuring asthma data for children and adults, including WRA.
  - Re-posted CDC tweets on adult asthma and WRA using [MDPH twitter account](#).
- Staffed WRA information tables as part of outreach effort to healthcare providers
  - New England College of Occupational and Environmental Medicine/MA Association of Occupational Health Nurses, Newton, MA, November 29-30, 2012.
  - American Lung Association (ALA) Northeast, Pulmonary Symposium, March 6, 2013.
- OHSP was invited to participate in a new partnership—MA Older Adult Taskforce—and present “Asthma among Older Adults in Massachusetts” at the first meeting on July 9, 2013.

## MAJOR OUTCOMES

### Potential Outcomes

- **Burden and distribution of work-related asthma.** OHSP gained Department support for our initiative to include industry and occupation (I/O) questions on the Massachusetts Behavioral Risk Factor Surveillance System (BRFSS) survey. The Health Survey Program included the I/O questions in the past four landline surveys, and selected I/O to be part of a small subset of questions on the 2012 and 2013 cell phone surveys. New findings on exposure to environmental tobacco smoke at work by occupation were well-received by the Tobacco Cessation and Prevention Program with potential to influence ETS control activities by local boards of health and employer wellness programs, as well as asthma prevention and control strategies statewide.
- **Practices of disinfection and cleaning in healthcare.** OHSP continued to focus on promoting safer cleaning and disinfecting in healthcare. We have participated in NIOSH's National Occupational Research Agenda, Healthcare and Social Assistance, Cleaning and Disinfection in Health Care (CDHC) Working Group. The CDHC is composed of leaders internationally in infection control, asthma and work-related disease. The group will develop a problem statement that identifies the benefits, risks and gaps in knowledge about disinfectant use in healthcare to control healthcare acquired infections. This process may reduce ineffective disinfectant overuse in healthcare and influence practices in schools and childcare, with potential to significantly reduce use of known asthmagens in industries with high numbers of disinfectant-WRA.
- **Focus on primary prevention of asthma.** OHSP was active in planning and executing, April 23-24, 2013, *Primary Prevention of Asthma: A Symposium on Current Evidence, Research Needs and Opportunities for Action*, an innovative 2-day conference at Massachusetts Medical Society. This conference brought together a diverse group of scientists and

community representatives from occupational asthma, pediatric asthma, obesity, schools, and other areas. The conference summarized what is known about primary prevention of asthma, identified research and practice gaps, and selected areas that are ready for action. Following the conference, OHSP is working with partners to: guide development of symposium reports; organize a new MAAP primary prevention subcommittee; and to develop a roadmap for primary prevention in the MA Strategic Plan for Asthma (2014-19). This process has the potential to shift the dialogue, locally and nationally, to go beyond asthma management and include asthma prevention.

## Intermediate Outcomes

- **Redistribution/use of findings by multiple partners within and outside Massachusetts.** An OHSP analysis of BRFSS data showed an estimated 340,000 MA workers had asthma in 2010, and current asthma prevalence among Service occupations was nearly twice the prevalence for all other occupations combined (15.3% v 8.8%). In Summer 2012, findings were presented at the Council of State and Territorial Epidemiologists Annual Conference and at internal MDPH meetings. In October 2012, an Occupational Lung Disease Bulletin (see OUTPUTS section) was disseminated electronically through the CDC-asthma distribution lists, ALA-Northeast, Collaborative for Health and the Environment and MAAP. Results and methods were requested and used by other states and academic partners.
- **Asthma by occupation selected for special section in 2012 MA BRFSS Annual Report.** OHSP's finding of increased asthma prevalence among Service occupations led the MDPH Health Survey Program to select current asthma as one of five adverse health indicators and include prevalence for 16 occupation groups. The report with this analysis will be released in late 2013; this report may serve as a model for other BRFSS states, thereby influencing attention to asthma by occupation outside of Massachusetts.
- **National WRA indicator approved.** We participated in successful efforts to develop a national WRA indicator and how-to guide; the indicator was approved at the 2013 Annual CSTE meeting in June. We anticipate this indicator will be adopted by states, presented in their annual indicator reports and will increase visibility of WRA for state health activities.
- **Barriers to reducing asthmagens identified.** OHSP input was incorporated into the May 2013 "Report on Barriers to Reducing the Use of Asthma-Related Chemicals," which provides guidance on reducing use of three asthmagens—isocyanates, formaldehyde and chlorine. We are currently working with the MA Office of Technical Assistance and other partners to develop guidance for spray foam use in buildings for energy conservation to reduce isocyanate exposures among applicators, other construction workers and occupants. Previous work together has led to anticipated reductions in formaldehyde in hair salons.
- **Safer cleaning products.** In MA, state agencies are mandated to purchase cleaning products without known asthmagens. The state agency that guides purchasing relies on OHSP input for activities, including a recent factsheet to guide cleaning in public parks and recreation areas. OHSP continued to actively participate in guidance to schools and early education and childcare regarding cleaning and disinfecting practices.

## End Outcomes

Given under-recognition of WRA and the case-based nature of our surveillance system, it is not possible to document trends in WRA incidence. However, surveillance and dissemination of findings to partners within and outside MA, including healthcare providers, can lead to enhanced awareness, improved capture of WRA cases, improved prognosis, and real reductions in workplace exposures that cause or exacerbate asthma.

**Annual Report, July 2012- June 2013**  
**Massachusetts Department of Public Health**  
**Expanded Occupational Health Surveillance in Massachusetts**  
**Surveillance and Prevention of Sharps Injuries and**  
**Musculoskeletal Disorders among Massachusetts Hospital Workers**

**Principal Investigator** – Dr. Letitia Davis, 617-624-5626, [Letitia.Davis@state.ma.us](mailto:Letitia.Davis@state.ma.us)

**Project Coordinator** – Angela Laramie, MPH, 617-624-5641, [Angela.Laramie@state.ma.us](mailto:Angela.Laramie@state.ma.us)

**Web address:** [www.mass.gov/dph/ohsp](http://www.mass.gov/dph/ohsp)

The overarching aim of this project is to reduce the incidence of sharps injuries and musculoskeletal disorders (MSDs) among hospital workers in Massachusetts by:

- Collecting data on sharps injuries among hospital workers annually,
- Analyzing data and disseminate surveillance findings to promote prevention efforts,
- Conducting intervention and prevention activities to reduce sharps injuries,
- Characterizing MSDs among hospital workers using administrative data sets, and
- Continuing collaborations with stakeholders to address sharps injuries and extend these efforts to address MSDs.

During this budget period, primary emphasis was placed the work of the Hospital Ergonomics Task Force and related analysis and materials.

## **MAJOR OUTPUTS/PRODUCTS**

### **Sharps Injury Surveillance**

#### ***Data Collection***

For the twelfth consecutive year, data on sharps injuries among Massachusetts hospital workers were collected from all MDPH licensed hospitals. For the calendar year 2012, more than 3,000 sharps injuries were reported.

#### ***Hospital Specific Reports***

Hospital specific reports showing sharps injuries over time and characterizing injuries for one year and are now available to hospitals upon request and during site visits. SAS code has been written to develop these reports in an effort to automate the process as much as possible.

#### ***Exemption from the inclusion of sharps injury prevention technology***

A new protocol for hospital specific follow-up regarding continued use of devices lacking sharps injury prevention features was developed and implemented by the Department. Letters requesting exemption forms for devices lacking sharps injury prevention features were sent to hospitals reporting injuries with those devices. This protocol enables us to reach more hospitals than site visits alone and allows for more efficient review of compliance with MDPH regulations for multiple hospitals. MDPH will follow-up with hospitals to reinforce the exemption process, which, if done correctly requires that a thorough device review process is in place at the hospital level. Improved compliance with the requirement should reduce the number of devices lacking sharps injury prevention features used in the hospital setting.

### ***Partnership with Division of Health Care Quality and Safety***

MDPH Division of Health Care Quality and Safety staff conduct site visits to assess compliance with MDPH hospital regulations. OHSP continues to provide hospital specific sharps data prior to HCQ site visits. In turn, HCQ provides recommendations to hospitals on how to improve compliance with MDPH regulations regarding sharps injury surveillance and prevention.

### ***Partnership with Organization for Safety, Asepsis and Prevention***

OHSP worked with the Organization for Safety, Asepsis and Prevention on a NIOSH funded study to survey dental offices regarding exposure control plans and bloodborne pathogens. The study, currently under review by OMB, is one of the few to look at bloodborne pathogen exposures outside of the hospital setting.

## **Safe Patient Handling**

### ***Burden of patient handling related MSDs among Massachusetts hospital workers***

Data from three administrative data sets (BLS SOII, MDIA Workers' Compensation data, HRD Workers' Compensation eServices) were analyzed to describe the nature and extent of patient handling related MSDs among Massachusetts hospital workers. Findings show that a majority of patient handling MSDs result in lost time, nurses are injured more than any other occupation group, and about one-third of the injuries are among workers under age 35. These findings, validated from three sources, clearly indicate that patient handling MSDs are a significant public health problem that needs be addressed. Results of analysis have been presented to the Hospital Ergonomics Task Force and will be included in the Task Force report this fall.

### ***Survey of Safe Patient Handling Activities in Massachusetts Hospitals***

Further analysis of the Survey of Hospital-Based Safe Patient Handling Activities (survey conducted in the prior budget period) was carried out. The analysis now includes additional information about policies and procedures by hospital type (acute/non-acute) and a Safe Patient Handling Program index, which is a measure of the extent to which hospitals have multiple program components in place. The results of the survey helped to inform the Hospital Ergonomics Task Force in their consideration of essential components of a Safe Patient Handling program. A report of the findings is in review and will be shared with the hospitals. Findings were also presented at the annual CSTE conference in June 2013 as well as to the Task Force and will be included in the Task Force report.

### ***Safe Patient Handling Resources***

A [webpage](#) was developed as a repository for useful information relating to safe patient handling. This website will be continuously added to as additional resources are identified.

## **Other Partnerships**

Project staff are now members of the Boston Medical Center Injury Prevention Center core faculty. This partnership enhances integration of occupational health into other disciplines

## **Presentations**

"Prevention of Injuries from Sharp Objects in the Health Care Environment" Harvard School of Public Health, October 26, 2012.

"Sharps Injuries and Devices from Pre-packaged Kits." Annual APHA Conference, Moscone Center, San Francisco, CA. Tuesday, October 30, 2012.

"Occupational Exposures to Bloodborne Pathogens among Dental Workers." Annual APHA Conference, Moscone Center, San Francisco, CA, Wednesday, October 31, 2012.

"The Unfinished Agenda II: Addressing the Challenge." Safe in Common Webinar, February 5, 2013.

"Sharps Injuries Among Hospital Workers: Findings from the Massachusetts Sharps Injuries Surveillance System, 2002-2010." Harvard School of Public Health, March 18, 2013.

"Safe Patient Handling Activities in Massachusetts Hospitals." Annual CSTE Conference, Pasadena Convention Center, June 11, 2013.

## **MAJOR OUTCOMES**

### **Intermediate Outcomes**

#### ***Sharps Injury Surveillance and Prevention***

Findings from the Massachusetts Sharps Injury Surveillance System have been posted on web sites of other organizations including the [International Sharps Injury Prevention Society](#) and [Safe in Common](#). Findings were also referenced in several articles and presentations, including ["Safer Sharps in a Dangerous World"](#) and ["Occupational Exposure to Blood and Body Fluids among Health Care Workers in Teaching Hospitals in Tehran, Iran"](#). This demonstrates the usefulness and broad reach of the data collected in Massachusetts.

### **Potential Outcomes**

#### ***Hospital Ergonomics Task Force***

The Hospital Ergonomics Task Force met quarterly to develop recommendations regarding patient handling associated Musculoskeletal Disorders (MSDs) among Massachusetts hospital workers and to identify core safe patient handling program components. Additionally, three working groups met once per month to discuss specific topic areas regarding patient handling associated MSDs in preparation of the Hospital Ergonomics Task Force Report to be released in the fall. The recommendations from the Task Force have the potential to influence hospital policies and programs related to patient handling as well as the actions of other stakeholders such as programs that train and educate healthcare workers.

### **End Outcomes**

There has been an overall decline in the sharps injury rate since the inception of the surveillance system in 2002. It is reasonable to assume that our activities have contributed to this decline. Data provided by the system will allow us to continue to monitor the sharps injury rates over time and target prevention efforts accordingly.

**Annual Report, July 2012- June 2013**  
**Massachusetts Department of Public Health**  
**Expanded Occupational Health Surveillance in Massachusetts**  
**Teens at Work Project**

**Principal Investigator** – Dr. Letitia Davis, 617-624-5626, [Letitia.Davis@state.ma.us](mailto:Letitia.Davis@state.ma.us)

**Project Coordinator** – Beatriz Pazos Vautin, MPH, 617-624-5677, [Beatiz.Pazos@state.ma.us](mailto:Beatiz.Pazos@state.ma.us)

**Web address:** [www.mass.gov/dph/teensatwork](http://www.mass.gov/dph/teensatwork)

The Teens at Work: Injury Surveillance Project (TAW) within the Massachusetts Department of Public Health (MDPH) aims to prevent work-related injuries to young workers by:

- Continuing case ascertainment using multiple data sources
- Conducting case follow-up with injured youths
- Analyzing surveillance data and disseminating findings
- Developing and conducting intervention and prevention activities
- Collaborating with government and community partners to promote use of surveillance findings for prevention

Since 1993, TAW has conducted a range of surveillance and outreach activities that aim to make jobs safer for workers under age 18. This project period we expanded our efforts to include young adult workers 18-24 years old. Listed below are highlights from the past period.

## MAJOR OUTCOMES

### Intermediate Outcomes

#### *MA YES Team & Poster Contest Community Engagement*

TAW continues to lead the MA Youth Employment and Safety ([YES Team](#)), bringing together representatives of multiple government agencies quarterly to coordinate efforts to protect youth at work. This past period, the YES Team, in partnership with the Massachusetts Coalition for Occupational Safety and Health, achieved extensive interagency/community engagement through the third annual *Safe Jobs for Youth Poster Contest*, which drew over 170 teen entries. An awards event was held at the State House and attended by finalists and their families, nine state agencies and community partners, state legislators, and press. TAW blogged about the event in [English](#) and in [Spanish](#); our agency partners



MA Governor re-Tweets the Poster Contest winner

live-tweeted the winners, and our Governor tweeted the winning poster in response; and one honorable mention made her city's primetime [TV newscast](#). This May-August, the winning poster is on public transit throughout Greater Boston and the Attleboro-Taunton region.

### ***Corporate Move for Coffee Burn Engineering Control***

TAW met with corporate headquarters of a national coffee restaurant chain to follow up on burn injury prevention efforts from the previous period. This outreach has resulted in progress in developing a new coffee brewer model designed to engineer out a common issue that has caused repeated coffee burn injuries: a prototype built by corporate's product manufacturer was lab tested this past Spring, and five brewers will now be placed in restaurant environments for a 60-day alpha test period.

### ***TAW Website and Social Media Expanded Reach***

TAW posts all output materials [online](#) within the MDPH website. This past period, MDPH frontline media were more aggressively used to promote TAW messages, through Tweets, three blog posts, and a currently running MDPH [homepage story](#). Partner agencies were also active this year in helping to disseminate TAW messages through their own media outlets, including Twitter, blogs, and public transportation. As a result, this period was a record setter for TAW web traffic, nearing 20,000 combined hits and downloads to our pages and materials. Highlights from July 2011-May 2013, include over 3,000 downloads of our *Child Labor Laws in Massachusetts* poster, over 4,600 for our *Guide for Working Teens*, and nearly 4,000 hits to our Poster Contest webpage.

## **Potential Outcomes**

### ***Using Data to Guide Injury Prevention for Young Adults Workers***

Prompted by surveillance results showing high work-related injury rates among Hispanics age 18-24, TAW engaged a health communication Masters student this past spring to research Hispanic young adult workers' attitudes and knowledge regarding workplace health and safety. Taken together, these findings will help inform tailored strategy for reducing injuries among this population. TAW's presentation of these findings received the 2013 CSTE *Outstanding Poster Presentation Award* for the category of Environmental Health/Occupational Health/Injury.

## **End Outcomes**

Analysis of data collected by TAW since 1993 indicates that the work-related injury rate for teens continues to decline faster than that for adults. It appears the efforts by TAW and its partners across the state are making a difference.

## **MAJOR OUTPUTS/PRODUCTS**

### ***Case Ascertainment and Follow-up***

- For the 114 cases of non-fatal injury to workers under age 18, ascertained through statewide workers' compensation data and emergency department data from a sample of hospitals, TAW mailed both a letter and educational materials to employers of injured teens.
- TAW successfully translated into Spanish its letter to parents of injured teens informing them about the project and requesting interview. As a result, six of the 35 interviews with injured teen workers conducted this period were completed in Spanish, and one of the eight cases referred for worksite follow-up involved a non-English-speaking teen.

## Data Dissemination

- TAW released a set of *Industry Specific Fact Sheets* for the leading industries with work-related injuries to teens: [food service](#), [grocery stores](#), [health care service](#), [retail trade](#) and [construction](#). The set includes an [overview](#) fact sheet.
- TAW released its first [data report](#) on non-fatal work-related injuries to 18-24 year olds, revealing high rates of injury within this age group, particularly among Hispanics. The report highlights need to develop intervention strategies for this age group.
- TAW developed and made available a new [sexual harassment lesson](#) for the *Youth @ Work: Talking Safety* curriculum in response to Massachusetts teen concerns about sexual harassment in the workplace. This lesson provides teachers with tools to address this sensitive but important topic in a classroom setting.
- TAW disseminated its annual [Surveillance Update](#) to schools, employers, unions and other stakeholders. This year's *Update* reviews progress over the past 20 years of TAW, and highlights our new sexual harassment lesson.

## Other Publications and Presentations

Davis L, Vautin BP. [Tracking Work-Related Injuries among Young Workers: An Overview of Surveillance in the United States](#). Health and Safety of Young Workers: Proceedings of a US and Canadian Series of Symposia. 2013 May; DHHS (NIOSH) Publication No. 2013-144:105-125.

Gallagher SS, Rattigan S. [State of the Art in Young Worker Safety Interventions in the United States](#). Health and Safety of Young Workers: Proceedings of a US and Canadian Series of Symposia. 2013 May; DHHS (NIOSH) Publication No. 2013-144:147-163.

“Child Labor Law Hoist Restrictions: Impact on Health Care Co-op Placements.” *Cooperative Education Coordinator Meeting*, Assabet Valley Regional High School, October 12, 2012.

“Protecting Young Workers in Massachusetts: Surveillance to Action.” Tufts University, Department of Public Health & Professional Degree Programs, October 23, 2012

“Young Worker Health and Safety: Recognizing Hazards in Your Workplace.” LARE Training Center, December 4, 2012.

“Protecting Young Workers in Massachusetts: Surveillance to Action.” Harvard School of Public Health. February 20, 2013

“Intro to Young Worker Health and Safety: Talking Safety – Who Wants to Win a Million Dollars?” *Leadership Education in Action to Promote Safety (LEAPS) Young Worker Academy*, 1199 SEIU, April 17, 2013.

“Sensitivity and Representativeness of the Massachusetts Teens At Work Injury Surveillance System.” *Annual CSTE Conference*, Pasadena, CA, June 10, 2013.

“Using Data to Guide Work-related Injury Prevention Strategies for Young Adult Hispanic Workers.” Poster Presentation. *Annual CSTE Conference*, Pasadena, CA, June 10, 2013.

“Youth @ Work: Talking Safety curriculum for high school students: New lesson in workplace sexual harassment.” *Connecting for Success Annual Conference*, Blackstone Valley Regional Vocational Technical High School, June 27, 2013.